

**FACILE DETECTION OF CANCER AND CANCER
RISK BASED ON LEVEL OF COORDINATION BETWEEN ALLELES**

ABSTRACT OF THE DISCLOSURE

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There is provided a method for the detection of cancer and cancer risk by analyzing the coordination between alleles within isolated cells whereby an alteration in an inherent pattern of coordination within isolated cells corresponds to cancer or cancer risk. Also provided is a method of determining the genotoxic effect of various environmental agents and drugs by assaying isolated cells to determine the coordination between alleles following in-vivo and/or in-vitro exposure to the various agents.. Allelic coordination characters are selected from replication, conformation, methylation and acetylation patterns. A diagnostic test for detecting cancer or the risk of cancer having an allelic replication viewing device for viewing the mode of allelic replication of a DNA entity, a standardized table of replication patterns and an analyzer to determine an altered pattern of replication, whereby such altered pattern is a cancer characteristic is also provided. There is also provided a method for differentiating between hematological and solid malignancies by following mono allelic expressed sequences and analyzing the replication status of the sequences to distinguish between hematological and solid malignancies.

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